17 July 2017

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: Docket No. 17-108, Restoring Internet Freedom

Dear Ms. Dortch:

In the Notice of Proposed Rulemaking the FCC requests comment on consumer benefits that would result from restoring broadband Internet access service classification to an information service, the magnitude of effects, further steps the Commission should take to maximize facilities-based investment and competition, and any tradeoffs to changing classification status. Comment is also sought on how regulatory uncertainty and the imposition of Title II impacts innovation and indeed reduces innovation. The Commission would like to understand the costs and benefits of pre-emptive, industry-wide regulation, whether it deters competition and competitive entry, and whether it creates unintended consequences.

Furthermore the FCC seeks comment on how its Internet conduct standard impacted consumers and innovation and whether its removal would be beneficial, noting the experience of zero rating. It asks for feedback on the need for bright line rules and possible modification. It requests comment on whether ex ante rules are necessary and whether antitrust enforcement is sufficient.

The attached papers, "How Title II hurts innovators and consumers" and "Evaluating the Consequences of Zero-Rating: Guidance for Regulators and Adjudicators" address these questions.

This commentary observes the following

Title II and the Open Internet Order deprive consumers of their sovereignty and choice 1
The bright line Open Internet rules are price controls which violate the free market for broadband. 2
Title II and Open Internet rules are discriminatory regulations that block innovation. 4
Case by case adjudication acts as regulation. 4
The objective of Title II is to create a government monopoly of broadband, not a competitive market. 7

Title II and the Open Internet Order deprive consumers of their sovereignty and choice

The imposition of Title II and associated Open Internet Order on the internet has harmed consumers by suppressing their ability to optimize their preferences to realize an optimal user experience online. The paper on Title II details how the 2015 FCC, Title II advocates, and Open Internet policy unfairly and deceptively imposed regulators' preferences upon consumers; removed broadband from the discipline of the free market;

and abrogated the will of the people by violating Congress' intention that the internet should be free and unfettered from Federal and state regulation.

The 2015 FCC and Title II advocates have deceived consumers by promoting a narrative that speed is the most important metric of broadband quality and by implementing regulation and standards around this metric. Indeed, speed may be least important metric, depending on the consumer and application in question. Rather than perform the requisite market analysis, the 2015 FCC abused the definition of broadband speed to create the appearance of an uncompetitive market so as to justify its decision to impose common carrier obligations even though there was no natural monopoly. Open Internet regulation prohibits consumers from contracting with broadband access and edge providers to optimize the many factors which could improve user experience. A free market for broadband would enable consumers to optimize their meaningful preferences for the internet just as they do for technology services like Uber.

The paper does not estimate the magnitude of the effects of classification, but one can intuit that such effects are significant. Consider that with the regulated status quo that consumers pay the full cost of broadband—that is the cost of infrastructure, the cost of data delivery, and other fixed and variable costs. Meanwhile edge providers are restricted, if not prohibited, from participating, either from participating in the cost of broadband, subsidizing consumers to lower the cost of broadband, creating offerings to improve the fidelity of their application or service, and among a variety of other others.

Assume that the annual revenue from broadband subscriptions is $100 billion, an amount essentially borne by consumers. Consumers would certainly benefit by paying less for broadband. At the same time, consumers would likely improve their optimization with packages better tailored to their tastes. Indeed the total revenue would likely increase as people not online may likely find a reason to adopt with a customer-centric offer and those online would have a better fit for their preferences. Moreover those edge providers which desire to purchase quality of service guarantees to improve their performance would have the freedom to do so. We know that Uber has revolutionized the taxi industry; the broadband market would experience a similar beneficial evolution if the market was allowed to operate with minimal external constraint.

Removing Title II and vacating the Open Internet Order would open market opportunities for new edge providers not available today because the Open Internet rules impose barriers to entry for applications and services which need priority and differentiation. This has already been observed by with the blocking of HelloDigital, described in the following section. Opening the market would also likely create competition for other parts of the ecosystem which are particularly concentrated, namely online advertising, and reduce the level of oligopoly.

The bright line Open Internet rules are price controls which violate the free market for broadband.

The findings of the paper support that the FCC reverses Title II classification and vacates the Open Internet Order, including the elimination of the bright line rules (blocking, throttling and paid prioritization) and the internet conduct standard. The FCC never conducted the market analysis to see whether these rules were needed. Nor did it observe harm in the marketplace. In any case, there are ample safeguards in place to address anticompetitive behavior. Indeed net neutrality concepts are redundant to antitrust concepts. This is evidenced in how the unfair and deceptive practice standard is identical to the FCC's transparency rule. Thus AT&T Mobility was charged twice for the same infraction from two different regulators with different sets of rules. This is an unfair and inefficient outcome arising from the FCC's presumptuous expansion of its jurisdiction.

As the first attached paper[1] describes, the adoption of Title II was effected, while not explicitly stated, to build the foundation for a centrally planned, government run national broadband monopoly. I have studied this model extensively[2] and have direct experience as a New Zealander. This model is problematic in its cost, risk, and inability to align information and incentives appropriately.

The case of Australia is indicative. It is almost certainly the case that aggressive application of explicit Title II-type regulation led to a situation where no private sector party found it desirable to invest in improved network capacity. Rather than revisit the regulatory regime, the Government instead opted to effectively buy out the two fixed line operators and create a single monopoly fiber-to-the-home network. Although the government network was structurally separate (thereby enabling service-based competition), fixed-line networks available to consumers, and hence the technological differences and innovation possibilities available decreased from three (copper ADSL, cable and private fiber) to one (government-owned fiber). This was due to the government, in order to protect its own monopoly network and the equalized pricing terms adopted, imposing terms that made it impossible for private fiber operators to effectively compete. The experiment excluded the option to upgrade copper and cable networks to higher standards as new ADSL and DOCSIS technology became available, so was costly in lost opportunities for consumers. It also had real costs, due to the stranding of investment in the legacy networks – a cost that was realized in the fact that nearly a quarter of the fiber network budget was earmarked for compensating the copper and cable providers for the stranding. The original proposals, estimated to have a net cost of over $2000 per household[3], were ultimately replaced by a more modest scheme utilizing a mix of technologies[4], but the networks remained government-controlled. Despite these interventions, Australian fixed-line networks on average in 2017 are delivering lower speeds than those enjoyed by US citizens in Alaska[5].

The US may well experience additional adverse financial impacts by continuing down the path of Title II, including the documented expected loss of 75,000 jobs related to the decline infrastructure deployment, the 5.6% decline in investment amongst the 12 largest ISPs, the reduction in planned infrastructure builds, not to mention the adverse effects for small providers and general uncertainty which clouds investment. In any event, the FCC's rules themselves effect central planning through de facto price and traffic controls on broadband. This appears to violate the 1996 Telecommunications Act, which expressed that that policy of the United States is that the Internet should be free and unfettered from state and Federal regulation. It is hard to see how the imposition of Title II by the FCC, a commission of 5 unelected officials, does not violate Congress' intent and the will of the people.

Furthermore there are dynamic effects to consider. If the US moves to a centrally planned broadband model, it foregoes the scale innovation which comes from dynamic, multi-sided, multi-sector competition as multiple facilities compete for consumers in different ways. There is a more robust environment for network and edge innovation in a market in which the various networks—whether fiber, DSL, cable, mobile, fixed wireless or satellite--compete than just a single government monopoly for fiber. Moreover the ability for edge providers to differentiate their offerings through service, quality, price, network technology, and so on creates further dynamism for the system, particularly when they partner with networks for quality of service. This is a far more robust system than a single network technology envisioned by Title II advocates.

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[1] Layton, R. & Howell, B. (2017). How Title II Harms Consumers and Innovators.

[2] See, for example, see the second, third and fourth attached papers:
Howell, B. (2012). Competition and Regulation Policy in Antipodean Government-Funded UltraFast Broadband Markets
Howell, B. (2013). Broadband Regulation and Government Investment in Nationwide UltraFast Fibre Broadband Networks: evidence from New Zealand.
Howell, B. (2014). Separation Anxieties: Structural Separation and Technological Diffusion in Nascent Fibre Networks.

[3] http://www.techpolicydaily.com/communications/counting-costs-benefits-government-fiber-beneficence/

[4] http://www.techpolicydaily.com/communications/government-fiber-fools-still-rush-google-fears-tread/

[5] http://www.techpolicydaily.com/communications/dispelling-myths-us-global-internet-speeds/

Should the goal be to create facilities-based competition and support market entry, the FCC should restore broadband to a Title I service. Indeed the goal will likely be furthered by additional removal and retirement of related regulations which increase the cost of deployment and require operators to maintain legacy facilities.

Title II and Open Internet rules are discriminatory regulations that block innovation.

A number of Silicon Valley companies claim that they need Title II to flourish and that without such regulation they would never have come into being. Yet for the vast majority of the internet's life, these rules did not exist. Simply put, while there may be political valence for these views, there is little to no empirical evidence for them.

However, there are powerful and potent reasons to use Title II advocacy as a marketing vehicle to win public sympathy and create "regulate my rival" policy. For example, large internet companies (whose market capitalization is greater than that of most countries) and a range of startups they fund exploit the popular romance that they are but fledging garage enterprises needing regulatory protection.

The FCC offers no examples of real-world startups that could not get off the ground because of an ISP violating net neutrality. The robust development of the internet ecosystem in the years before the Open Internet Order provides a self-evident demonstration for why new rules are not needed.

A plaintiff in the Supreme Court challenge to the Open Internet Order illustrates the collateral damage Title II causes to innovators' startup ambitions. Daniel Berninger is part of the team that commercialized VOIP as a technology in the 1990s, created the business model, recruited the CEO for VOIP pioneer Vonage, and cofounded the VON Coalition and ITXC. Berninger's nonprofit Voice Communication Exchange Committee champions high-definition voice and works to speed the internet protocol (IP) transition.

The first commercial deployment of VOIP in 1995 led to the founding of dozens of VOIP providers responsible for collapsing the cost of a telephone call by 90 percent or even zero. To the FCC, however, the successful internet substitute was something to be regulated like the rotary phone invented in 1891. Berninger and other VOIP innovators secured the Pulver Order in 2004 after a 10-year struggle to keep regulators at bay, but that has not stopped the FCC's foray into regulating other startups, including Berninger's most recent, HelloDigital, which seeks to voice enable the ubiquitous process of posting comments on the web. Berninger sued the FCC because the ban on paid prioritization not only keeps his app from working but makes it illegal.

Case by case adjudication acts as regulation.

The FCC adopted a broad catch-all internet conduct standard that essentially said it would investigate anything and everything it found suspicious. On one level, this duplicates a competition consumer protection standard that looks or unfair and deceptive practices. However, as the case of zero rating shows, the internet conduct standard is an effective way to regulate away competition by creating a high barrier to entry without imposing regulation "per se". Uncertainty as to whether a particular behavior may or may not attract the FCC's attention, or the inability to afford the costs of an inquiry, may well discourage a firm from bringing a highly consumer welfare-enhancing application or pricing innovation to market in the first place.

A case in point is how the FCC Enforcement Bureau set up some 16 criteria to evaluate zero rating. With that kind of deterrence, only large firms have the resources to try. Ironically it is frequently small firms with new, innovative products that have need zero rating to gain a foothold in the marketplace against established

competitors with large existing market shares[6]. This confirms a frequent conclusion of regulation, that rules unwittingly support the large players over small ones.

The issue of zero rating is instructive for the internet in general because it goes to the heart of two central issues, how consumers value data or content and how it is to be funded. This is by no means as simple as the platitudes that "all data is equal", "just deliver the bits" and "every internet connection should provide access to the entire internet".

The fifth attached paper[7] describes the adjudication of zero rating from a regulator's perspective. It observes that scrutiny of zero rating can be costly for regulators, particularly because of the opportunity cost for expending scarce resources to examine a practice which does not amount to being anticompetitive, siphoning attention away from critical priorities, whether spectrum, universal service etc. Moreover a number of telecom regulators have been sued as their aggressive zero rating rules violated communications laws and national constitution which allow the freedom of speech and enterprise.

The key concern expressed against zero rating is that if some content is offered for free, then it will foreclose other content. There is one instance in which this could be true: in a perfectly competitive market for content. Such a situation requires

- price-taking participants
- homogeneous, perfectly substitutable products
- no search or other transaction costs
- no externalities
- no barriers to entry and exit
- perfect divisibility of output

But neither are content nor infrastructure access markets perfectly competitive. Both have high fixed, sunk costs which violate price-taking assumptions. At best the content market is either monopolistically-competitive or oligopolistically-competitive. If we don't have a perfectly competitive market, we cannot assume that zero rating or free data behaves as critics assert. However we can study what happens in the market when zero rating is introduced, and we can ask critical questions to see whether it's necessary to adjudicate certain instances.

The paper describes the five questions to help a telecom regulator triage issues that are important. These include to what degree the content or application is substitutable; whether it is cheaper for ISP to deliver zero rating content; whether the zero rating practice is designed to spur adoptio, which party makes complaint; and the user's search and switching costs.

The paper touches on empirical research[8] by my colleagues who investigated the purported harms suggested by Title II advocates and measured the specific marketplaces before and after zero rating restrictions were put in place. For the high profile cases in Chile, Netherlands, and Slovenia they find that the effects of zero rating are neglibible but not negative. In general the level of traffic that is zero rated versus traffic overall did not present a antricompetitive threat.

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[6] http://www.techpolicydaily.com/internet/ice-cream-illustrates-why-you-dont-need-to-fear-zero-rating/

[7] Howell, B. & Layton, R. (2016). Evaluating the Consequences of Zero-Rating: Guidance for Regulators and Adjudicators.

[8] Layton, Roslyn and Elaluf-Calderwood, Silvia Monica, Zero Rating: Do Hard Rules Protect or Harm Consumers and Competition? Evidence from Chile, Netherlands and Slovenia (August 15, 2015). Available at SSRN: https://ssrn.com/abstract=2587542

The Slovenian Competition Regulator proposed another empirical analysis by looking at the amount of zero rated data versus all paid data and found that the potential impact to the marketplace from differential pricing was but a few cents on a €30 monthly mobile subscription. This amount is insignificant from a regulatory perspective and did not justify intervention, according to the authority.

In the case of New Zealand, 95 percent of desired content comes from offshore (largely entertainment). It is relatively expensive for ISPs to deliver foreign content versus content hosted locally. The ISP in question hoped that by zero rating the 5 percent of content hosted locally that it would reduce the demand for foreign content. It turned out that even the incentive of making New Zealand content free did nothing to increase its appeal to end users. The ISP gave up the offer. The example also shows that content is imperfectly competitive and not substitutable—even if it's offered for free.

A related example comes from Greenland, a country slightly larger than Alaska with 55,000 people. TELEGreenland has data caps on fixed line service particularly to compensate for the use of video entertainment such as Netflix which is expensive to deliver. However vital applications such as telemedicine and education are designed to be as bandwidth-light as possible so as to encourage their use. In such a case it makes sense to zero rate the socially beneficial applications to encourage use but to charge for the privately beneficially applications as costs can be recovered which help fund the cost of the infrastructure.

It begs the question as to why, if differential pricing is as harmful as critics purport, that we allow it in every other aspect of life, particularly to make goods and services more accessible to people of low income. We see this across many industries in which the youth and the old receive discounts and when offers are made to increase usage at off-peak hours, e.g. early bird specials, off-peak transport discounts, senior citizen discount days at the cinema and hairdresser, child prices even though they occupy a seat that could have been sold at a higher price to an adult. Differential pricing is common among digital goods and services. For example Microsoft offers a range of software products free or at a discount for students whereas enterprise versions come at a premium price. The freemium model is common on Skype and Spotify where basic service is free, and premium services require a fee.

Similarly Facebook's Free Basics, deployed across some 60 countries, stimulates the adoption of first time users. Free Basics is proving particularly helpful to deliver mhealth,.[9] Some 10 million people have joined Free Basics to just access free health services for AIDS and maternity. Services include free messaging to determine whether AIDS medicines are counterfeit, free reminders for prenatal exams, health information on a variety of diseases and disorders, and remote patient care. Emerging country app developers attest that without Free Basics they would not have obtained these new users. Platforms that are both free and tailored to the first time user is essential to stimulate adoption.

A number of developed countries including the US have a problem in which a certain percentage of people will not adopt the internet any price. Free platforms with socially beneficial content could be helpful to give these individuals a reason to try the Internet. Therefore the FCC should encourage the use of zero rating or free data, particularly when the goal is stimulate adoption. But this learning is helpful in situations even with sophisticated Internet users.

The FCC should pay attention to whom makes the net neutrality complaint, as it may reveal important competition information. If the complaint comes from an existing content or app provider, it may be indicative of an incumbent wanting to foreclose entry by rival providers. However the complaint could be credible if a potential provider says that the offer forecloses his entry.

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[9] Layton, Roslyn and Elaluf-Calderwood, Silvia Monica, Free Basics Research Paper: Zero Rating, Free Data, and Use Cases in mhealth, Local Content and Service Development, and ICT4D Policymaking (September 27, 2016). TPRC 44: The 44th Research Conference on Communication, Information and Internet Policy 2016. Available at SSRN: https://ssrn.com/abstract=2757384

We have also seen cases where users want to limit the entry of other users. This was particularly the case in India. Reportedly 1 million responses were received by the Indian regulator protesting that the poor have free Internet access. It bears mention that poor themselves did not participate in the hearing as they had no means to do so. Overwhelmingly advocacy organizations—not consumers--call for bans on zero rating, suggesting that there is an attempt to force aesthetic or ideological preferences upon consumers.

The internet is an experience good; it can't be valued until it's tried.[10] Moreover platforms such as Google, Netflix, or Amazon take advantage of the "attention economy"[11], making efficient use of an individual's limited time and attention. A user may have set up a profile, preferences and payment details within a platform. These dynamics help to make platforms sticky, and users, therefore, can be reluctant to to switch or try other platforms because of search and switching costs. As such, platforms can exert a kind of market power over their users. It is in these situations that new entrants most desire differential pricing because it helps to reduce the user's search and switching costs to try a competitor.

We all have experienced this in the ice cream parlor. One would never try a new flavor if one had to pay full price, so a free sample is an incentive to try a new flavor.

Some have called for partial bans on differential pricing, for example when a content provider pays a network operator for the cost of traffic. But such a ban is most onerous for small and medium content providers because they have the most difficult time to compete in the content market. It is small providers that most need pricing flexibility.

The complexity of this issue impugns the premise of the scrutiny on differential pricing, which falls asymmetrically on ISPs, itself a form of discrimination. There is no parallel obligation on content and application providers to refrain from activities that inhibit innovation in the network elements of the internet ecosystem, or from picking ISP winners.

Unsurprisingly, inconsistencies have emerged around the world. For example, flat-rate pricing of broadband subscriptions is in effect the zero-rating of all data. This is the "gamers and grandmothers" scenario in which games users pay lower unit costs because grandmothers are paying more. Why then is it acceptable to subsidize the gamers but not to subsidize the grandmothers?

Following the same logic, why is differential pricing allowed for different access speeds? Isn't this a form of discrimination? Why do we say that it is ok or "neutral" for consumers pay for the privilege of a higher speed, but not when content and application providers seek to pay for the same thing? The simple 'one size fits all' principle is insufficient to govern a complex, dynamic internet ecosystem with multiple multi-sided markets. There is much to learn here and caution before rulemaking is warranted.

The objective of Title II is to create a government monopoly of broadband, not a competitive market.

In imposing common carrier status on the internet, Title II advocates have revealed a plan to turn the internet into a government monopoly. While classic regulation sees a linear process to transition the national telephone company into a competitive market under the guidance of antitrust rules and the subsequent sunset of sector specific regulation, the goal of Title II advocates is to empower the FCC to regulate a national broadband monopoly in perpetuity, specifically *municipally-owned networks offering the uniform technology of fiber to the premises.*

[10] http://www.jstor.org/stable/1830691?seq=1#page_scan_tab_contents
[11] https://www.amazon.com/Attention-Economy-Understanding-Currency-Business/dp/1578518717

To understand what Title II will do to the internet in the future, one can review what it did to the telephone network in the past. Title II perpetuated a government-sanctioned AT&T "Ma Bell" monopoly so egregious that it required antitrust action to dissolve. Because of the industrial regulation stipulated by Title II in 1934, AT&T was able to generate excess profits on its equipment sales with its subsidiary Western Electric. Title II rate-of-return regulation allowed AT&T to earn revenue on top of its "padded" rate base.

It took the Department of Justice eight years to prosecute the company and settle a consent decree and then a few more years to divest Ma Bell of its operating companies. Not only did consumers suffer for decades in the Ma Bell era from a lack of competition in the markets for devices and long-distance service, but innovators also suffered from being unable to attach devices to the network and experiment with telecommunications technologies.

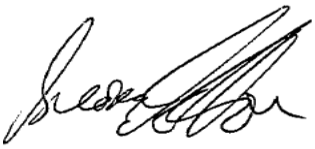
While some may like the idea of nationalized or centrally planned broadband, it is fraught with technological risk. Just like any investment portfolio, diversification in technologies is the key to managing risk. To be sure, finding a winning technology is great, but a nation should want competition and experimentation in different kinds of broadband networks, not just for the efficiency of delivering broadband to people with different needs and in different places, but for continuous improvement in broadband through technological competition.

Title II is the opposite of the free market for broadband. Therefore it is welcome news that the new Republican-led FCC launched a plan to restore internet freedom this spring. At a minimum, the unfounded and possibly illegal Title II imposition should be overturned, and Open Internet Order vacated.

There is no doubt that net neutrality is a popular topic that generates millions of comments. This activism is best directed at Congress where the law can be updated. The FCC takes public comment as part of its administrative procedures, but making policy based upon the number of comments its receives, as if by plebiscite, is not how a telecom authority should work.

Please note that I am filing on my behalf and not for any co-authors or contributors. My positions reflect my own views and not necessarily those with any of my affiliates. Moreover I have received no compensation to submit these comments.

Sincerely,



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